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On the *Baryopsis* species of Peru (Coleoptera: Staphylinidae: Paederinae: Cryptobiina)

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Abstract: Four species of *Baryopsis* from Peru, all of them micropterous and collected in high-altitude habitats, are (re-)described and illustrated: *B. glabra* nov.sp. (Ancash province), *B. ingens* nov.sp. (Cusco province), *B. minor* nov.sp. (Cusco province), and *B. montivagans* (BERNHAEUER 1906), nov.comb. A key to the five *Baryopsis* species now known from Peru is provided.

Key words: Coleoptera, Staphylinidae, Paederinae, Cryptobiina, *Baryopsis*, *Latona*, *Pseudocryptobium*, Nearctic region, Peru, taxonomy, new species, redescription, lectotype designation, key to species.

Introduction

According to a catalogue by HERMAN (unpubl.), the genus *Baryopsis* FAIRMAIRE & GERMAIN 1861 previously included nine species distributed in South America (Colombia, Ecuador, Peru, Bolivia, and Argentina). Two species were known from Peru, *B. calcarata* (SOLSKY 1875) and *B. montivagans* (BERNHAEUER 1906).

SAIZ (1973, 1978) figured and keyed the Chilean representatives of *Baryopsis*, including the type species *B. brevipennis* FAIRMAIRE & GERMAIN 1861, and he provided a redescription and illustrations of the genus. He considered the gender of *Baryopsis* masculine, as can be inferred from the specific epithet *araucanus*, but according to Article 30.1.2 of the Code (ICZN 1999), names with the Greek ending *-opsis* are feminine.

Among the Cryptobiina, *Baryopsis* is characterised particularly by relatively large size, an antennomere I of reduced length (approximately as long as the combined length of antennomeres II and III), and the presence of long and thin parameres. According to SAIZ (1978), however, these parameres are absent in *B. araucana* COIFFAIT & SAIZ 1968, which casts some doubt on the generic assignment of this species.

Material of Staphylinidae collected in Peru and recently made available to me included numerous specimens of *Baryopsis*. An examination of this material revealed that they belonged to three undescribed species.

Material and methods

The material referred to in this study is deposited in the following public institutions and private collection:

FMNH..... Field Museum of Natural History, Chicago (via L. H. Herman)

OÖLL..... Oberösterreichische Landesmuseen/Biologiezentrum Linz (F. Gusenleitner)

cAss..... author's private collection

The morphological studies were conducted using a Stemi SV 11 microscope (Zeiss Germany) and a Jenalab compound microscope (Carl Zeiss Jena). For the photographs a digital camera (Nikon Coolpix 995) was used.

Head length was measured from the anterior margin of the frons to the posterior margin of the head, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra. The length of the median lobe of the aedeagus was measured from the apex of the ventral process to the base of the capsule. The parameral side of the aedeagus (i.e., the side where the sperm duct enters) is referred to as the ventral, the opposite side as the dorsal aspect.

Species descriptions

Baryopsis glabra nov.sp. (Figs 1-7)

Type material: Holotype ♂: "Peru - Ancash, Quebrada Llaca, Cordillera Blanca, 4400-4500 m, 1.IV.1990, leg. Etonti / Holotypus ♂ *Baryopsis glabra* sp.n. det. V. Assing 2011" (cAss). Paratypes: 18♂♂, 10♀♀: same data as holotype (cAss, OÖLL); 1♂, 1♀: "Peru - Ancash, Laguna Llanganuco, Orconchocha, 4000 m, 28.III.1990, leg. Etonti" (cAss).

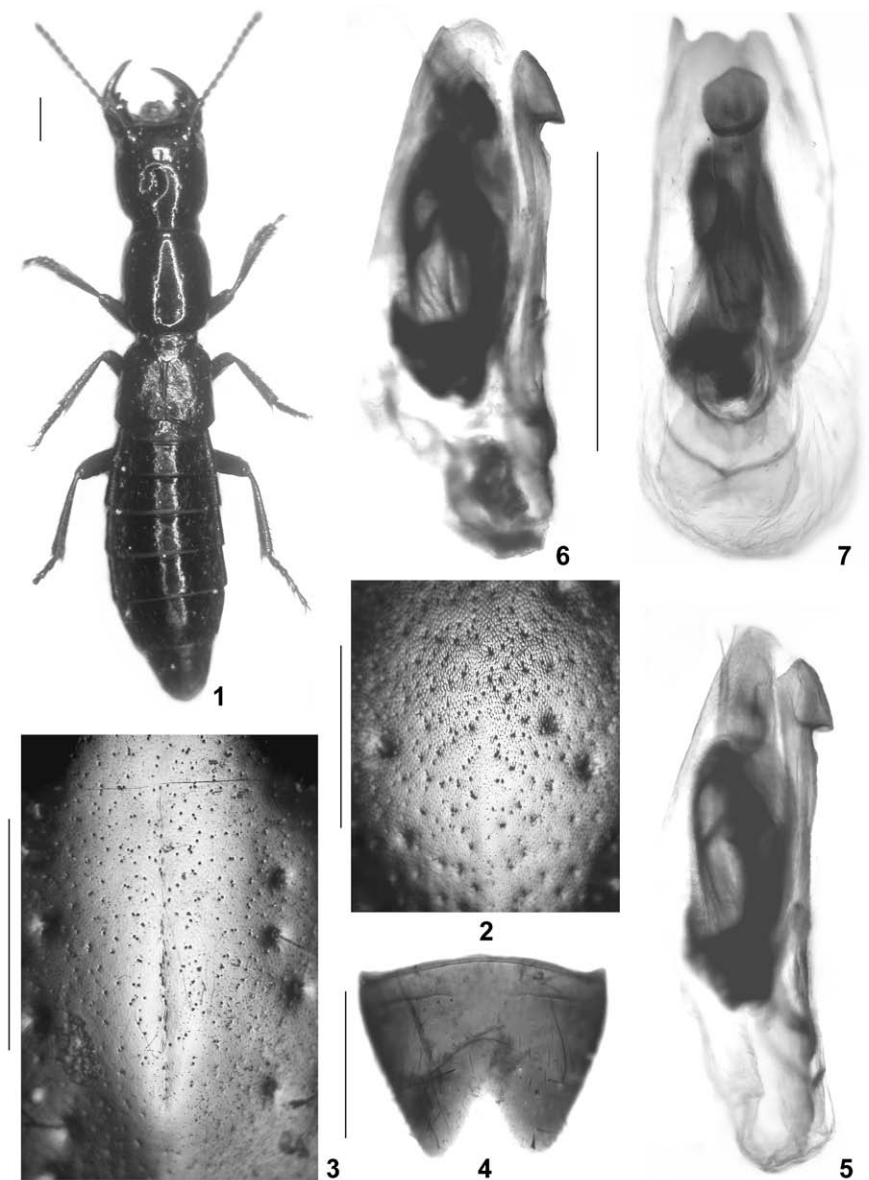
Description: Body length 10.0-13.5 mm. Habitus as in Fig. 1. Coloration: body blackish; legs dark-brown to blackish-brown; antennae reddish-brown to brown, with antennomere I often infusate; maxillary palpi reddish.

Head (Fig. 2) approximately 1.1 times as long as broad; lateral margins subparallel in dorsal view; posterior angles obsolete, i.e., lateral angles convexly curving towards neck posteriorly; dorsal surface with sparse coarse macropunctuation and with dense micropunctuation; median dorsal portion without macropunctures; interstices with fine, shallow microreticulation composed of isodiametric meshes; surface moderately shiny. Eyes small, weakly projecting from lateral contours of head and only approximately 1/4 the length of postocular region in dorsal view.

Pronotum (Fig. 3) 1.20-1.25 times as long as broad and approximately as wide as head, or slightly narrower; maximal width in anterior half, weakly tapering posteriorly; lateral margins weakly convex in dorsal view; on either side of midline with a series of punctures each composed of approximately 10 macropunctures; surface with rather dense and very fine micropunctuation, but without appreciable microsculpture (traces of almost obsolete microsculpture may be visible only at high magnifications of 200 x or higher) and glossy.

Elytra extremely short, only approximately 0.5 times the length of pronotum, distinctly dilated posteriad; posterior margin obliquely truncate; dorsal surface with sparse and

coarse, but shallow macropunctures and with micropunctuation, the latter extremely dense, minute, and shallow, visible only at high magnification. Hind wings completely reduced. Metatarsomere I longer than II, but slightly shorter than the combined length of II and III.



Figs 1-7: *Baryopsis glabra* nov.sp.: (1) habitus; (2) median portion of head; (3) median portion of pronotum; (4) male sternite VIII; (5-6) aedeagus in lateral view; (7) aedeagus in ventral view. Scale bars: 1, 4-7: 1.0 mm; 2-3: 0.5 mm.

Abdomen distinctly wider than forebody, widest at segment VI; punctation fine and sparse; interstices with very fine microsculpture composed of transverse meshes; posterior margin of tergite VII without palisade fringe; posterior margin of tergite VIII strongly convex, without sexual dimorphism.

♂: protarsomeres I-IV strongly dilated; sternite VII not distinctly modified; sternite VIII with rather deep, V-shaped posterior excision (Fig. 4); aedeagus (Figs 5-7) approximately 1.7 mm long; ventral process slender, apically dilated (ventral view) and hooked (lateral view); parameres slightly projecting beyond apex of ventral process.

♀: protarsomeres I-IV distinctly dilated, but less so than in male.

E t y m o l o g y : The specific epithet (Latin, adjective: glabrous) alludes to the glossy, only obsoletely microsculptured pronotum, one of the characters distinguishing *B. glabra* from the following species.

C o m p a r a t i v e n o t e s : *Baryopsis glabra* is readily distinguished from the two following species by the glabrous pronotum, the shallower microsculpture of the head, the shape of the pronotum, body size (intermediate between *B. minor* and *B. ingens*, without overlap), and by the different shape of the ventral process of the aedeagus. It is separated from *B. calcarata* (type locality: "montagnes du Pérou") by smaller size (*B. calcarata*: 17 mm), much shorter elytra (longer than pronotum in *B. calcarata*), the subdued shine of the head, the completely reddish maxillary palpus, the blackish coloration of the elytra (*B. calcarata*: with distinct violet hue), the absence of transverse impressions on the pronotum, and the unmodified male sternite VIII (*B. calcarata*: posterior margin distinctly concave). *Baryopsis montivagans* (type locality: Cerro de Pasco), whose body size is only slightly larger than that of *B. glabra*, has a parallel-sided, shallowly microsculptured pronotum, a more pronounced microreticulation of the head (also in posterior dorsal portion), strongly microsculptured, posteriorly less strongly dilated elytra, and a distinctly larger aedeagus with a longer, apically not dilated (ventral view) and differently shaped (lateral view) ventral process.

D i s t r i b u t i o n : The specimens were collected in two localities in Ancash province in the northern Peruvian Andes at altitudes of 4000-4500 m.

***Baryopsis ingens* nov.sp. (Figs 8-14)**

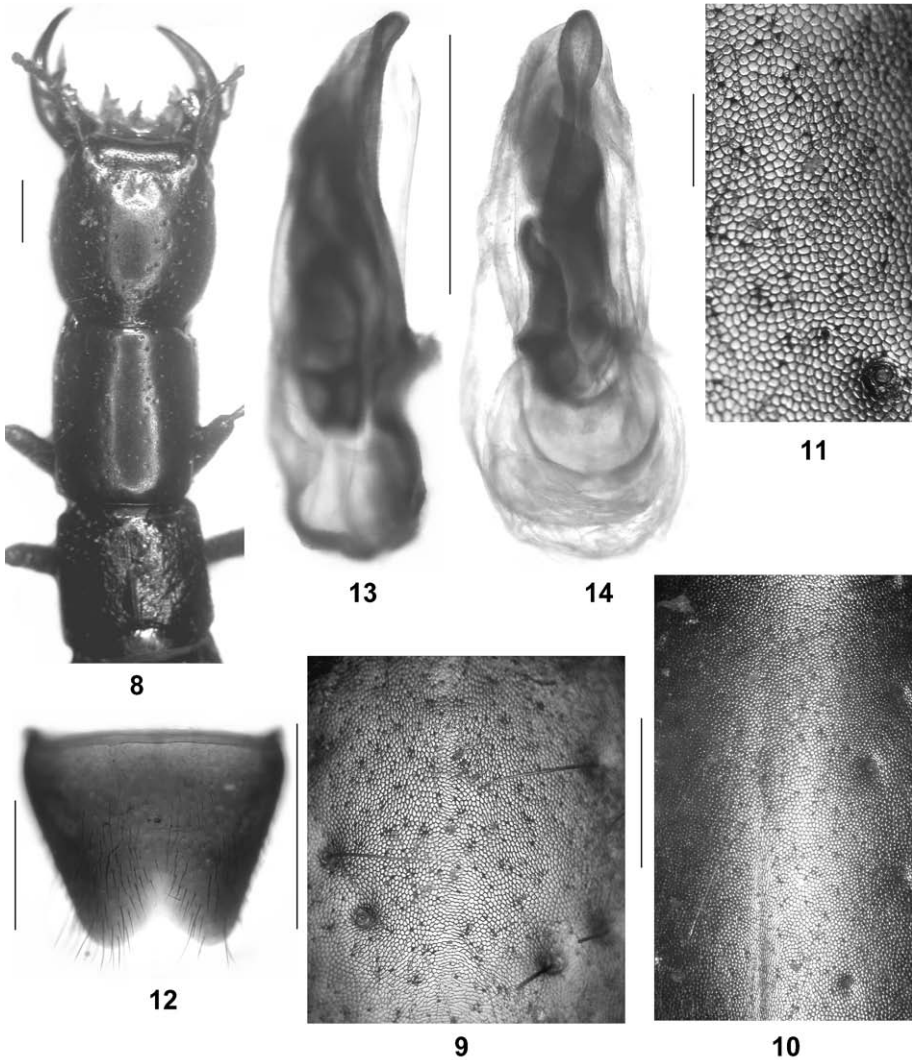
T y p e m a t e r i a l : Holotype ♂: "Peru - Cusco, P. Abra/Malaga, 4000 m, 20.IV.1990, leg. Etonti / Holotypus ♂ *Baryopsis ingens* sp.n. det. V. Assing 2011" (cAss). Paratype ♀ [teneral]: same data as holotype (cAss); 4 larvae: same data as holotype (cAss).

D e s c r i p t i o n : Body length enormous, 14-18 mm. Forebody as in Fig. 8. Coloration: body, including legs, blackish; antennae dark-brown; maxillary palpi dark-reddish.

Head (Fig. 9) almost 1.1 times as long as broad; lateral margins weakly convex in dorsal view; posterior angles obsolete, i.e., lateral angles convexly curving towards neck posteriorly; dorsal surface with sparse coarse macropunctuation and with dense micropunctuation; median dorsal portion without macropunctures; interstices with pronounced microreticulation composed of fine isodiametric meshes; surface almost matt. Eyes small, weakly projecting from lateral contours of head and approximately 1/5 the length of postocular region in dorsal view.

Pronotum (Figs 19-11) 1.20-1.25 times as long as broad and approximately 0.9 times as

wide as head; maximal width near anterior margin, gradually tapering posteriorly; lateral margins almost straight in dorsal view, near posterior angles weakly sinuate; dorsal series somewhat irregular and composed of 10-12 macropunctures; micropunctuation very indistinct, barely visible in the pronounced microsculpture; microreticulation similar to that of head.



Figs 8-14: *Baryopsis ingens* nov.sp., holotype: (8) forebody; (9) median portion of head; (10-11) median portion of pronotum; (12) male sternite VIII; (13-14) aedeagus in lateral and in ventral view. Scale bars: 8, 12-14: 1.0 mm; 9-10: 0.5 mm; 11: 0.1 mm.

Elytra extremely short, little more than 0.5 times the length of pronotum; posterior margin obliquely truncate; dorsal surface somewhat rugosely sculptured, with ill-defined, shallow macropunctures and with extremely fine, barely noticeable micropunctuation; surface somewhat glossy. Hind wings completely reduced. Metatarsomere I longer than II, but slightly shorter than the combined length of II and III.

Abdomen distinctly wider than forebody, widest at segment VI; punctuation dense and coarse; interstices glossy, with very fine, barely noticeable microsculpture composed of transverse meshes; posterior margin of tergite VII without palisade fringe; posterior margin of tergite VIII obtusely angled in the middle, without sexual dimorphism.

♂: protarsomeres I-IV strongly dilated; sternite VII weakly impressed posteriorly; sternite VIII with moderately deep, broadly V-shaped posterior excision (Fig. 12); aedeagus (Figs 13-14) approximately 2.1 mm long; ventral process long and slender; parameres not reaching apex of ventral process.

♀: protarsomeres I-IV distinctly dilated, but less so than in male.

E t y m o l o g y : The specific epithet (Latin, adjective: enormous) alludes to the enormous size of this species.

C o m p a r a t i v e n o t e s : *Baryopsis ingens* is readily distinguished from all its Peruvian congeners by its large size in combination with extremely short elytra alone. In addition, it is characterised by the pronounced microreticulation of head and pronotum, the shape of the pronotum, the coarse and dense punctuation of the abdomen, the shallower excision of the male sternite VII, as well as by the distinctive morphology of the aedeagus.

D i s t r i b u t i o n a n d n a t u r a l h i s t o r y : The type locality is situated in the southern Peruvian Andes at an altitude of 4000 m. The paratype is distinctly teneral. Four larvae, which evidently belong to this species, were collected in the same locality.

***Baryopsis minor* nov.sp.** (Figs 15-21)

T y p e m a t e r i a l : Holotype ♂: "Peru - Cusco, P. Abra/Malaga, 4000 m, 20.IV.1990, leg. Etonti / Holotypus ♂ *Baryopsis minor* sp.n. det. V. Assing 2011" (cAss). Paratypes: 3 ♀ ♀, 1 larva: same data as holotype (cAss).

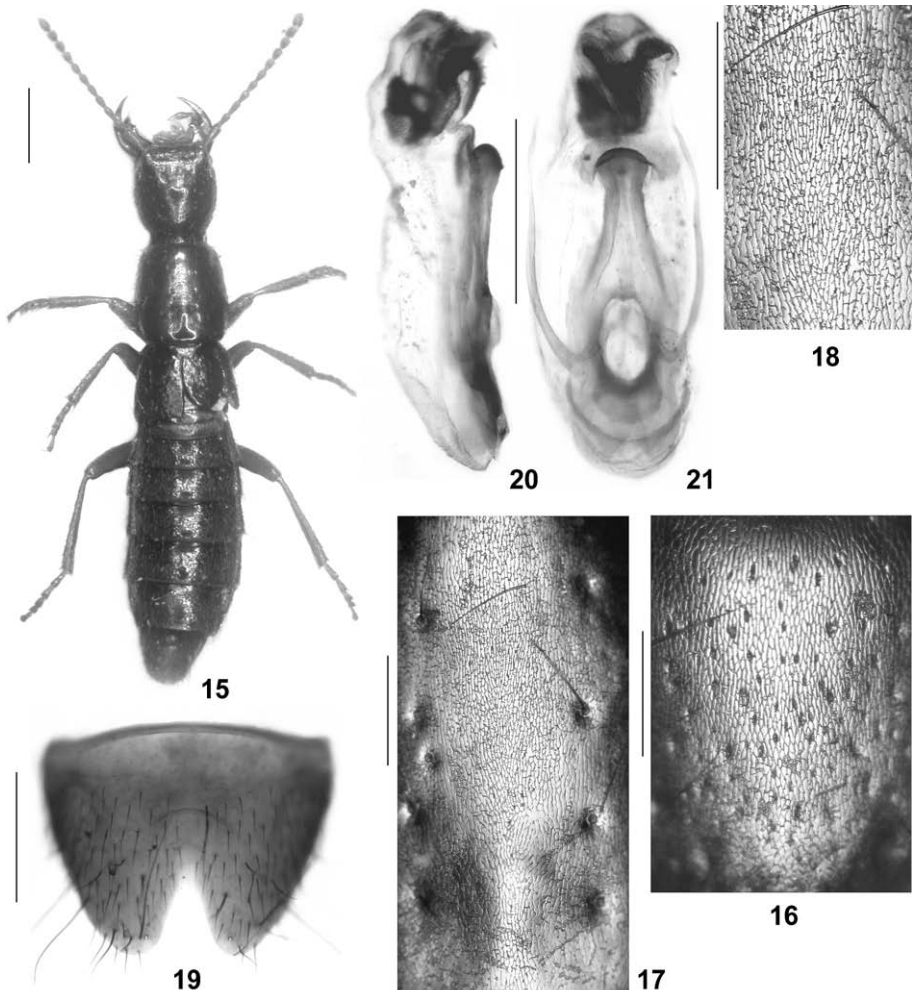
D e s c r i p t i o n : Body length 8.0-8.5 mm. Habitus as in Fig. 15. Coloration: forebody dark-brown; abdomen reddish-brown; legs and antennae reddish-brown to dark-brown; maxillary palpi reddish.

Head (Fig. 16) almost 1.1 times as long as broad; lateral margins convex, gradually curving towards neck in dorsal view; posterior angles obsolete; dorsal surface, except median dorsal portion, with sparse macropunctuation; micropunctuation variable, sparse in median dorsal portion, sparse to moderately dense in lateral and posterior dorsal portions; interstices with microreticulation composed of fine isodiametric to longitudinally elongate meshes; surface with subdued shine. Eyes small, weakly projecting from lateral contours of head and 1/5-1/4 the length of postocular region in dorsal view.

Pronotum (Figs 17-18) relatively short and broad, approximately 1.15 times as long as broad and 1.10-1.15 times as wide as head; maximal width approximately in the middle; lateral margins almost regularly convex in dorsal view; dorsal series composed of 6-10 macropunctures; micropunctuation absent; microreticulation in median dorsal portion composed of longitudinal meshes.

Elytra extremely short, approximately 0.55 times the length of pronotum; posterior margin obliquely truncate; dorsal surface with shallow, often ill-defined macropunctures; micropunctuation indistinct. Hind wings completely reduced. Metatarsomere I longer than II, but slightly shorter than the combined length of II and III.

Abdomen distinctly wider than forebody, widest at segment VI; punctuation dense and fine; interstices glossy, with very fine, barely noticeable microsculpture composed of transverse meshes; posterior margin of tergite VII without palisade fringe; posterior margin of tergite VIII convex, without sexual dimorphism.



Figs 15-21: *Baryopsis minor* nov.sp., holotype: (15) habitus; (16) median portion of head; (17-18) median portion of pronotum; (19) male sternite VIII; (20-21) aedeagus with internal sac extruded in lateral and in ventral view. Scale bars: 15: 1.0 mm; 19-21: 0.5 mm; 16-18: 0.2 mm.

♂: protarsomeres I-IV distinctly dilated; sternite VII not distinctly modified; sternite VIII with rather deep, narrowly V-shaped posterior excision (Fig. 19); aedeagus (Figs 20-21) approximately 0.9 mm long; ventral process short and apically rounded in ventral view; parameres distinctly projecting beyond apex of ventral process.

♀: protarsomeres I-IV dilated, but less so than in male.

E t y m o l o g y : The specific epithet (Latin, adjective, comparative of minus: small) alludes to the small body size, one of the characters distinguishing *B. minor* from other congeners known from Peru.

C o m p a r a t i v e n o t e s : *Baryopsis minor* is readily distinguished from all its Peruvian congeners by its small body size, the longitudinal microsculpture of the head and pronotum, the shapes of head and pronotum, the paler coloration, and the morphology of the aedeagus.

D i s t r i b u t i o n a n d n a t u r a l h i s t o r y : The type locality is situated in the southern Peruvian Andes at an altitude of 4000 m. One larva, which probably belongs to this species, was collected in the same locality.

***Baryopsis montivagans* (BERNHAEUER 1906), nov.comb. (Figs 22-30)**

Latona montivagans BERNHAUER 1906: 323 f.

T y p e m a t e r i a l e x a m i n e d : Lectotype ♂, present designation: "Cerro de Pasco, Peruvia. 4000 m / *Latona montivagans* ♂ Brh. Typus / Chicago NHMus M.Bernhauer Collection / Lectotypus ♂ *Latona montivagans* Bernhauer desig. V. Assing 2011 / *Baryopsis montivagans* (Bernhauer) det. V. Assing 2011" (FMNH). Paralectotype ♀: same data as lectotype, but "Cotypus" (FMNH).

C o m m e n t : The original description is based on an unspecified number of syntypes, among them at least one male, from "Peru: Cerro de Pasco, 4000 m" (BERNHAEUER 1906). Two syntypes, a male and a female, were located in the Bernhauer collection at the FMNH. The male is designated as the lectotype.

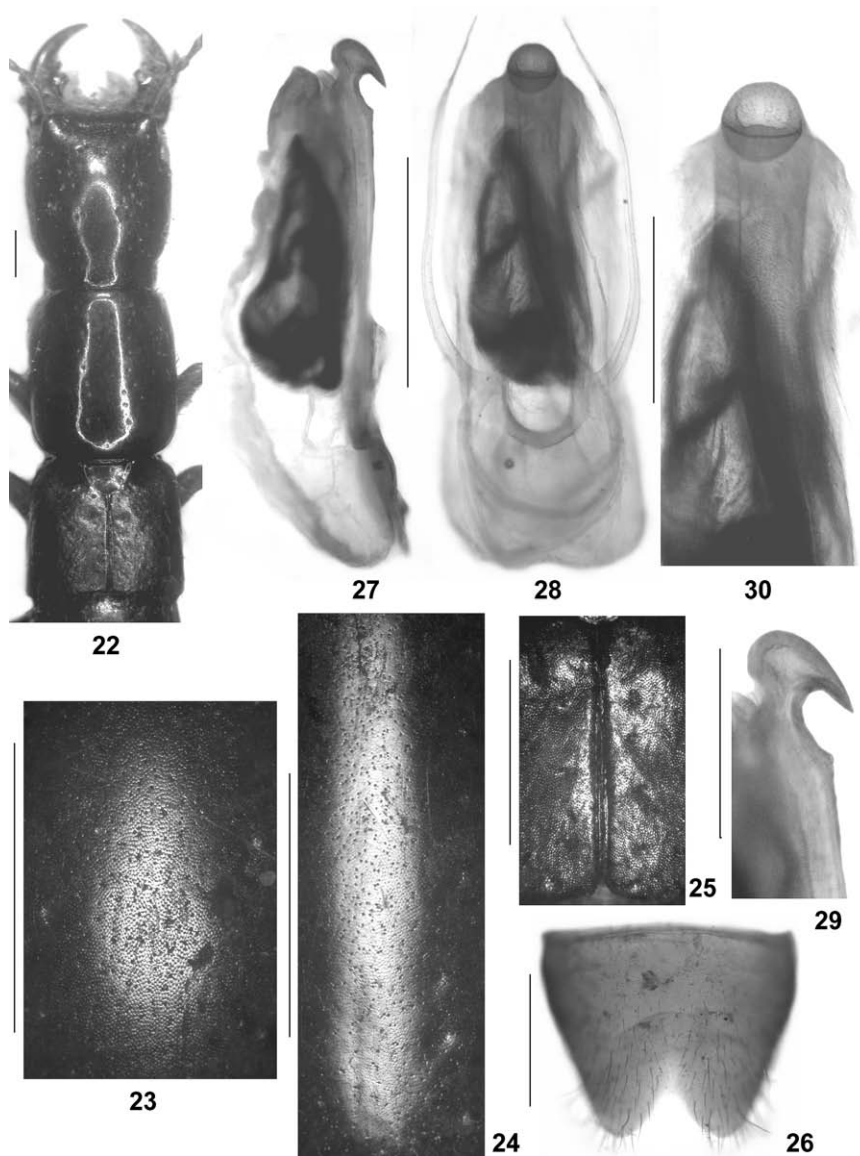
The preoccupied generic name *Latona* was replaced with the nomen novum *Pseudocryptobium* by BERNHAUER (1921). An examination of the above type material revealed that *L. montivagans* undoubtedly belongs to *Baryopsis*.

R e d e s c r i p t i o n : Body length 14-15 mm. Forebody as in Fig. 22. Coloration: body dark-brown to blackish brown, with slightly paler elytra; legs brown to dark-brown; maxillary antennae dark-reddish.

Head (Figs 22-23) weakly oblong, 1.03-1.04 times as long as broad; lateral margins almost straight and subparallel in dorsal view; posterior angles obsolete; macropunctuation sparse and coarse, median dorsal portion extensively without macropunctuation; micropunctuation dense, barely noticeable in the pronounced microreticulation, which is composed of fine isodiametric meshes; surface with subdued shine. Eyes small, weakly projecting from lateral contours of head and 1/5-1/4 the length of postocular region in dorsal view.

Pronotum (Figs 22, 24) relatively short and broad, approximately 1.15 times as long as broad and about as wide as head; lateral margins subparallel and practically straight in dorsal view; dorsal series composed of 8-10 macropunctures; micropunctuation dense everywhere; microreticulation present, but shallow, composed of fine isodiametric meshes.

Elytra (Figs 22, 25) short, approximately 0.55 times the length of pronotum, weakly dilated posteriad; posterior margin obliquely truncate; dorsal surface with shallow, sparse macropunctures; micropunctuation indistinct; surface with pronounced microreticulation and almost matt. Hind wings completely reduced. Metatarsomere I longer than II, but slightly shorter than the combined length of II and III.



Figs 22-30: *Baryopsis montivagans* (BERNHAEUER), lectotype: (22) forebody; (23) median portion of head; (24) median portion of pronotum; (25) sutural portion of elytra; (26) male sternite VIII; (27-28) aedeagus in lateral and in ventral view; (29) apical portion of ventral process in lateral view; (30) apical portion of ventral process in ventral view. Scale bars: 22-28: 1.0 mm; 29-30: 0.5 mm.

Abdomen distinctly wider than forebody, widest at segment VI; punctation relatively dense and fine; interstices with microsculpture composed of transverse meshes; posterior margin of tergite VII without palisade fringe; posterior margin of tergite VIII convex, without sexual dimorphism.

♂: protarsomeres I-IV distinctly dilated; sternite VII not distinctly modified; sternite VIII with moderately deep V-shaped posterior excision (Fig. 26); aedeagus (Figs 27-30) approximately 2.3 mm long; ventral process long, parallel-sided, apically not dilated (ventral view), and distinctly hooked (lateral view); parameres (without apical setae) not reaching apex of ventral process.

♀: protarsomeres I-IV of similar morphology as in male.

Comparative notes: In external characters, *B. montivagans* is most similar to *B. glabra*, but distinguished from that species by slightly larger size (apparently no overlap), the more pronounced microsculpture on the head, the presence of microsculpture on the pronotum, the shape of the pronotum (*B. glabra*: distinctly tapering in posterior half), the presence of pronounced microreticulation on the posteriorly only weakly dilated elytra, and the much larger aedeagus with a ventral process of different shape.

Distribution and natural history: The species is known only from one locality near Cerro de Pasco in the northern Peruvian Andes, where the type specimens were collected at an altitude of 4000 m.

Key to the *Baryopsis* species of Peru

- 1 Macropterous species of large body size (approximately 17 mm). Elytra with violet hue.....*B. calcarata* (SOLSKY)
- Micropterous species; elytra very short, approximately half the length of pronotum (Figs 1, 8, 15, 22). Elytra dark-brown to blackish, without violet hue.....2
- 2 Smaller species; body length 8.0-8.5 mm. Pronotum with distinct microsculpture composed of longitudinal meshes (Figs 17-18); dorsal series composed of 6-10 punctures. Pronotum and elytra without noticeable micropunctuation (Figs 17-18). Pronotum approximately 1.15 times as long as broad, with distinctly convex lateral margins in dorsal view, and distinctly broader than head (Fig. 15). ♂: aedeagus smaller, approximately 0.9 mm long, shaped as in Figs 20-21. Southern Peruvian Andes (Cusco)..... *B. minor* nov.sp.
- Larger species; body length at least 10 mm. Microsculpture of pronotum, if present, composed of isodiametric meshes. Pronotum and elytra with micropunctuation. Pronotum mostly more oblong, parallel-sided, and at least as broad as head. ♂: aedeagus distinctly larger and of different shape3
- 3 Conspicuously large species, body length 14-18 mm. Pronotum widest near anterior margin, posteriorly gradually tapering (Fig. 8); lateral margins straight in anterior 3/4, weakly sinuate near posterior angles; microsculpture of head and pronotum distinct and distinctly isodiametric (Figs 9-11). Abdomen with coarse and dense punctation; posterior margin of tergite VIII obtusely angled in the middle. ♂: sternite VIII with relatively shallow posterior excision (Fig. 12); aedeagus 2.1 mm long and with slender ventral process (Figs 13-14); parameres not reaching apex of ventral process. Southern Peruvian Andes (Cusco)..... *B. ingens* nov.sp.
- Pronotum at most with very shallow microreticulation, either parallel-sided or with maximal width at some distance from anterior margin, lateral margins not sinuate posteriorly. Abdomen with relatively fine punctation; tergite VIII with convex posterior margin. ♂: posterior excision of sternite VIII deeper and narrower; aedeagus with less slender and apically hooked ventral process. Northern Peruvian Andes.....4

- 4 Smaller species; body length 10.0-13.5 mm. Head with shallower (at least posteriorly) (Fig. 2), pronotum at a magnification of 50 x without microsculpture and conspicuously glossy (Fig. 3). Pronotum more slender, approximately 1.25 times as long as broad, and not parallel-sided, widest in anterior half and distinctly tapering posteriorly (Fig. 1). Elytra without distinct microreticulation and glossy, distinctly dilated posteriad (Fig. 1). ♂: posterior excision of sternite VIII deeper (Fig. 4); aedeagus approximately 1.7 mm long, shaped as in Figs 5-7; ventral process apically dilated (ventral view). Ancash *B. glabra* nov.sp.
- Larger species; body length at least 14 mm. Head with pronounced (Fig. 23), pronotum with shallow microreticulation (Fig. 24). Pronotum less slender, approximately 1.15 times as long as broad, and parallel-sided (Fig. 22). Elytra with pronounced microreticulation (Fig. 25), almost matt, and weakly dilated posteriad. ♂: posterior excision of sternite VIII less deep (Fig. 26); aedeagus much larger, approximately 2.3 mm long; ventral process apically not dilated (ventral view) and shaped differently (lateral view) (Figs 27-30). Environs of Cerro de Pasco *B. montivagans* (BERNHAEUER)

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Zusammenfassung

Vier Arten der Gattung *Baryopsis* aus Peru, allesamt brachypter und aus Höhenlagen von mindestens 4000 m, werden beschrieben bzw. redeskribiert und abgebildet: *B. glabra* nov.sp. (Provinz Ancash), *B. ingens* nov.sp. (Provinz Cusco), *B. minor* nov.sp. (Provinz Cusco) und *B. montivagans* (BERNHAEUER 1906). Für die fünf derzeit aus Peru bekannten *Baryopsis*-Arten wird eine Bestimmungstabelle erstellt.

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